

Saturday Magazine.

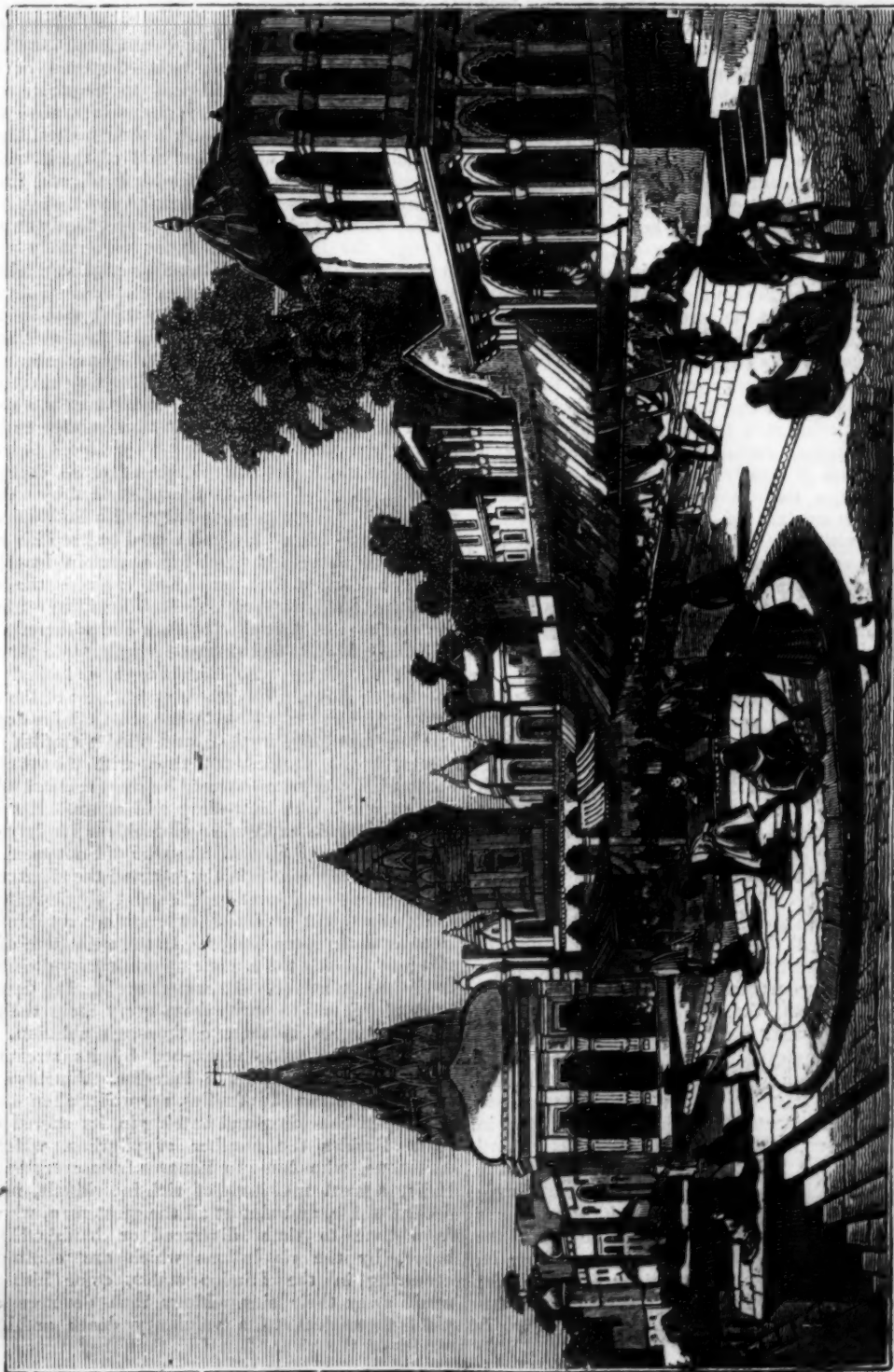
Nº 168.

FEBRUARY

14TH, 1835.

PRICE
ONE PENNY.

UNDER THE DIRECTION OF THE COMMITTEE OF GENERAL LITERATURE AND EDUCATION,
APPOINTED BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.



SCENE IN THE CITY OF BENARES.

EAST INDIA STATIONS. No. VI.

BENARES. PART 2*.

BENARES derives its title of "The Most Holy City," from its having been, it is said, the birth-place of the great Hindoo deity, Brahma. It is also still the sanctuary of his religion, and the seat at once of Brahminical learning, and Brahminical superstition. There are stated to be in the city no less than 8000 houses belonging to the Brahmins, or priests, alone. And this is the more probable, because it is, as it were, their university, from whence they are yearly sent forth to propagate the reign of error. The Hindoos do not hesitate to represent the place as the centre of all that is sacred, the focus of all that is wise, and the fountain of all that is good. They seem, however, to be aware that the city is not exactly what it once was. For a legend respecting its sanctity has been preserved,—absurd indeed, and extravagant throughout, but containing in it something of a good moral,—which states that "Benares had been originally built of gold, but in consequence of the sins of the people, it became stone, and latterly, owing to their increasing wickedness, it had degenerated into clay." Yet the Brahmins still fondly assert that "Benares is no part of the earthly globe, for whereas the globe rests only on the thousand-headed serpent, Ananta (eternity,) this city is fixed upon the point of Siva's trident;" and as a proof of this, they say that no earthquake is ever felt within its holy limits.

Benares is celebrated throughout India, as the seat of theological learning and philosophy, and during the lapse of nearly two centuries and a half, the superstitious devotions of the Hindoos have undergone no manner of change. Bishop Heber says, "We visited a celebrated temple, named the Vishvayesa, consisting of very small but beautiful specimens of carved stone-work, and the place is one of the most holy in Hindostan, though it is not so sacred as another spot adjoining, which Aurungzebe defiled, and built a mosque upon it, so as to render it, for the future, inaccessible to the worshippers of Brahma. The temple-court, small as it is, is crowded, like a farm-yard, with very fat and tame bulls, which thrust their noses into every one's hand and pockets for grain and sweetmeats, which are given them in great quantities; the cloisters are no less full of naked devotees, and the continued hum of Ram! Ram! is enough to make a stranger giddy. Near this tower is a well with a small tower over it, and a steep flight of steps for descending to the water, which is brought by a subterraneous channel from the Ganges, and, for some reason, accounted more holy than the Ganges itself; all pilgrims to Benares are enjoined to drink and wash here."

* Amongst the devotees who prowl about the temples at Benares, there are some of the most revolting objects that can be supposed to exist in any state of human society; they are disgusting beyond description. Fitch, who visited Benares during the latter part of the sixteenth century, has alluded to these monsters of devotion as existing in his time. Of one, in particular, he says, "His beard was of enormous growth, his hair hanging more than half down his body, his nails two inches long; he would not speak even to the king." These visionaries now frequently live in the depths of the jungles, like wild beasts, subsisting on roots, or on fruits, or on the casual benefactions of travellers; they go perfectly naked, having their bodies be-daubed with cow-dung, and sprinkled with wood-ashes, neither cutting their nails, their hair, nor their

beards. These monsters occasionally inflict on themselves the most severe and horrible tortures, in order to establish a claim, as the poor creatures pretend, upon the Deity to give them an everlasting reward in Paradise! Some keep their limbs in particular positions, until the sinews and joints become immoveable! Others chain themselves to trees with their faces towards the rising sun, in which position they sometimes remain for years, if death do not release them from their torments; and they are fed meanwhile by devout passengers, who throng around them, and offer to them the most servile language, as if to beings raised above mankind by superior gifts, and untainted sanctity! Others sleep nightly upon beds composed of iron spikes sufficiently blunted not to penetrate their flesh! Others, again, bury themselves alive in a hole just large enough to contain their bodies, having a small opening to admit the hand of the charitable passenger who supplies them with food, and in this narrow grave they will continue for years.

The extent to which mendicity is frequently carried, amongst the Brahmins in India, is scarcely to be conceived. It is really astonishing what immense sums they levy annually upon the charitable and religious of their own creed, who think that they do God service by administering to their necessities, or rather excesses, for many of them are the most profligate wretches in existence. In the province of Bengal, it has been computed that there is a population of at least two millions who subsist entirely by begging.

One of the most remarkable of those degraded mendicants at Benares is thus described by an eyewitness †. "He was what they call a Poddobahoo of the Yogue tribe. He had vowed to keep his right arm erect above his head for a certain length of time; but when that term had expired, the arm remained fixed, so that he could no longer use it: the sinews had shrunk, the limb had withered; the nails had grown to an enormous length, quite through the hand, which was clenched, and looked like monstrous claws. The whole appearance of the man was squalid and repulsive in the most odious degree. His hair was long, matted, and filled with filth; his shaggy beard, tangled and thick with the revolting accumulation of years, covered his meagre chest, which was smeared with cow-dung and ashes. His eyes glared with an expression of reckless impiety; he scowled upon all around him who did not seem disposed to administer to his wants, and the silent arrogance of this loathsome beggar was truly disgusting."

But the great object of superstitious reverence at Benares is the river Ganges. In the estimation of the Hindoos there is not a name upon earth, and scarcely in heaven, so sacred. Its waters are said to descend from above, and to purify from every stain the man who undergoes in them a thorough ablution. To die upon its banks, moistened by its stream, is deemed a sure passport to Paradise. Journeys, extending to thousands of miles, are undertaken for the purpose of beholding and bathing in its sacred current. Besides the number of pilgrims, which is enormous, who come to Benares from every part of India, a great multitude of rich individuals, in the decline of life, and almost all the great men, who are from time to time disgraced or banished from home, by the revolutions which are continually occurring in the Hindoo states, come hither to wash away their sins. Many rash devotees even yield themselves to a voluntary death amid the waves of the river, fancying that they thus secure

* See Saturday Magazine, Vol. V., p. 194.

† The Rev. Hobart Caunter, B.D., in the Oriental Annual.

complete felicity in a future world. They purchase two large kedgerree pots, between which they tie themselves, and when empty, these support their weight in the water. Thus equipped, they paddle into the stream, then fill the pots with the water which surrounds them, and thus sink into eternity.

Another instance of the gross superstition of the Hindoos is related by the writer before mentioned. Whilst Sir Charles Wilkins was an inmate of the Shewallah Ghaut, as the palace at Benares appointed for his residence was named, the following extraordinary scene took place. The building is situated at the northern extremity of the city, but on the very margin of the river. One day a *fakir*, of a most squalid appearance, was seen on the steps of the ghaut. He appeared to have but recently arrived from some distant quarter, where there was no sacred water in which to cleanse his hallowed limbs, as he impiously considered them, for he had evidently allowed the filth of years to accumulate on them. He descended the ghaut, and entered the water with his long hair trailing upon the steps behind him, until it at length floated on the bright unruffled surface of the sacred river. He then washed this enormous burden of his huge head with great care, divesting it of a load of filth. When he had completed his ablution, apparently much to his own satisfaction, he quitted the water with his long black hair carefully twisted round his arm to keep it from touching the ground, for it had reached the extraordinary length of twelve feet. As soon as he had attained the top of the steps, he entered the left wing of the Shewallah Ghaut, which was unoccupied, the centre only being inhabited by Sir Charles Wilkins, ascended the flat terraced roof, when placing himself upon his back, and resting his head upon the low parapet, with his face exposed to the full blaze of the burning sun, the intense heat of which was increased by the reflection from the *chunam* plane upon which his body rested; he suffered his hair to hang down upon the wall until it was completely dry: as soon as this was the case, he gathered up his long black locks, and disappeared.

On reading such descriptions as these, must not we Christians be ready to exclaim, with Bishop Heber;—

Can we whose souls are lighted | Can we to men benighted
With wisdom from on high, | The lamp of life deny?

And indeed, it is cheering to learn that that lamp has been now for some years lighted up in this most benighted city. There is a handsome church at the cantonment of Secrole, large enough to accommodate all the Protestant inhabitants of the station: the service of which is performed by a chaplain of the Church of England.

Bishop Heber, in his *Journal*, speaks also of the existence of an Hindostanee place of worship; a small, but neat chapel, which had been built under the auspices of Mr. (now Archdeacon) Corrie, in which, after a compendium of our beautiful Morning Service in Hindostanee had been read by the church missionary stationed there, he delivered the Blessing for the first time, in that language. The Bishop also gives a very interesting account of his visit to a large Church of England mission-school, established in the city, which is as follows:—"The school is kept in a large house, well adapted for the purpose, and made over to the Church Missionary Society by a rich Bengalee Baboo, not long since dead, whom Mr. Corrie had almost persuaded to become a Christian, but who, at length, appears to have settled in a sort of general admiration of the beauty of the Gospel, and a wish to improve the state of knowledge and

morality amongst his countrymen. In these opinions he seems to have been followed by his son, Calisunker Gossant, now living, and also a liberal benefactor to this and other establishments for national education in India. The house is a native dwelling, containing on the ground-floor several small low rooms, in which are the junior classes; and above, one large and lofty hall, supported by pillars, where the Persian and English classes meet, besides a small room for a library. The boys on the establishment are about 140; under the care of an English schoolmaster, assisted by a Persian Moonshee, and two Hindostanee writing-masters, the whole under the inspection of a catechist. The boys read Oordoo, Persian, and English, before me, extremely well, and answered questions both in English and Hindostanee, with great readiness. The English books they read, were the New Testament, and a compendium of English History. They also displayed great proficiency in writing, (Nagree, Persian, and English,) arithmetic, in which their multiplication-table extended to 100×100 , geography, and the use of the globes. To judge from their dress, they were mostly belonging to the middling class of life. Many, I think the majority, had the Brahminical string. I asked the catechist and schoolmaster, whether any of the boys, or their parents, objected to their reading the New Testament. They answered that they had never heard any objection made, nor had the least reason to believe that any was felt. The boys, they said, were very fond of the New Testament, and I can answer for their understanding it. The scene was very interesting: there were present, the patron of the school, Calisunker Gossant, a shrewd, and rather ostentatious, but a well-mannered Baboo; his second son, a fine and well-educated young man; Mr. Macleod, and Mr. Prinsep, the magistrates of the place, both very acute critics in Hindostanee and Persian; some ladies; and a crowd of swords, spears, and silver-sticks, on the staircase; the bearers also, by the way, seeming to take as much interest as any of us in what was passing. One, however, of the most pleasing sights of all, was the calm, but intense pleasure, visible on Archdeacon Corrie's face, whose efforts and influence had first brought this establishment into activity, and who now, after an interval of several years, was witnessing its usefulness and prosperity."

Earnestly do we hope that seeds such as these, may so spring up and flourish every where amongst our benighted fellow-subjects in India, that not only may the horrid system of superstition and depravity, which we have seen described in this paper, be in time entirely rooted from the land, but also the lovely and beauteous tree of the Gospel be planted in its place; and spread wider and wider, until it cover the land, bringing-forth abundant fruit, even unto everlasting life!

D. I. E.

City of idol-temples, and of shrines
Where folly kneels to falsehood—how the pride
Of our humanity is here rebuked!
Man, that aspires to rule the very wind,
And make the sea confess his majesty;
Whose intellect can fill a little scroll
With words that are immortal; who can build
Cities, the mighty and the beautiful:
Yet man,—this glorious creature,—can debase
His spirit down, to worship wood and stone,
And hold the very beasts which bear his yoke,
And tremble at his eye, for sacred things.
With what unutterable humility
We should bow down, thou blessed Cross, to thee,
Seeing our vanity and foolishness,
When, to our own devices left, we frame
A shameful creed of craft and cruelty. L. E. L.

[Taken chiefly from the *Oriental Annual*.]

FAMILIAR ILLUSTRATIONS OF EXPERIMENTAL SCIENCE.

No. VIII. HEAT. EBULLITION. VAPORIZATION.

LIQUIDS, when combined with certain quantities of heat, exhibit a commotion among their particles, which is termed *boiling*, or *ebullition*. From the well-known effects of boiling water, *boiling* and *scalding* are commonly considered synonymous. This is a popular error, as will be shown by and by; since it is possible to make some liquids boil in the same vessel in which others freeze. To boil, signifies, literally, to bubble; but it has no direct reference to temperature. In chemical language, boiling denotes that particular temperature, or condition, of liquids, at which they are the most rapidly convertible into vapours, and beyond which, under ordinary circumstances, it is impossible to accumulate heat in them. It is hence termed the *boiling-point*.

All other conditions being the same, the boiling-point of each particular liquid is constant. As some solid bodies require greater accessions of heat than others, before they can be made to assume the fluid form, so it is with liquids. They are changed into vapours with greater, or less, facility, according to the resistance offered by them to the expanding energies of heat; and which might depend upon their elementary constitution, their comparative density, or the degree of pressure to which they are exposed. The quality of the vessels in which liquids are heated is known to affect their boiling-point; as will also their admixture with certain solid bodies in a minutely divided form. When heat is applied to liquids whose surfaces are exposed to the influence of the atmosphere, their boiling-point is liable to slight variations, as the pressure of the air upon them is increased, or diminished. The difference is still more remarkable when the usual pressure of the atmosphere is entirely removed, or considerably increased, by mechanical means.

When a solid body is changed, by heat, into a liquid, it is an essential condition, that a certain quantity of the imponderable element should be accumulated in the substance acted upon, at one time. To preserve the fluidity thus produced, the heat, so accumulated, must be permanently maintained. In like manner, to produce continued ebullition in a liquid, there must not only be a certain quantity of heat combined with it at one time, but it must receive additional supplies, or the ebullition will cease.

The following table exhibits the boiling-points of a few of the liquids most commonly known.

Ether	96°	Oil of turpentine	314°
Ammonia	140	Sulphur	570
Alcohol	173	Linseed Oil	600
Water	212	Whale Oil	630
Water saturated with common salt	224	Mercury	668

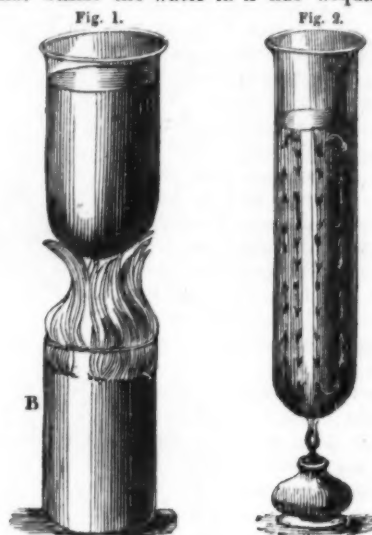
As liquids are bad conductors of heat, it is important to know the conditions that facilitate its propagation in them. In a solid body, a metal for instance, heat diffuses itself in every direction; being pushed forward from particle to particle, with equal celerity, whatever may be its situation as respects the heating agent. With liquids it is otherwise; heat being propagated in them by means of the motion it produces among their particles.

The non-conducting properties of liquids, when heat is applied to them at the top, instead of the bottom, may be illustrated by a simple experiment.

Provide two glass vessels of equal dimensions, and nearly fill them with cold water. Having ascertained the temperature of the water, (which we will

suppose to be 50°,) arrange the vessels, one directly over the other, as represented in fig. 1.

On the surface of the water in the vessel B, pour a little ether, and inflame it, permitting the flame to impinge against the bottom of the vessel A. When the ether has burnt out, if we place a thermometer at equal depths in each of the vessels, it will be found that whilst the water in A has acquired, say



50° to 100° additional of temperature, that in B will exhibit scarcely any change; thus proving, that heat is not readily propagated downwards in liquids.

The movements which take place in liquids when they are heated, may be shown by the aid of a glass vessel, of the form denoted in fig. 2.

Let the vessel be nearly filled with cold water, with which there has been previously mixed a few grains of powdered amber, or charcoal. On applying a moderate degree of heat to the bottom of the vessel, we shall immediately perceive that the particles of amber, or charcoal, suspended in the water, are put in motion; but that some of them move in a direction contrary to the others. The water in contact with the bottom and sides of the vessel, being nearer the source of heat than that in the centre, it will be the first to exhibit an increase in its temperature, by the increase in its bulk, and consequent ascent to the surface. Motion having thus commenced, the particles that first began to ascend are succeeded by those which have received greater accessions of heat; and these, in their turn, are pursued by others still warmer, until currents are established in the directions indicated by the arrows. The warmer portions of the liquid, which ascend at the sides of the vessel, return again to the bottom, through the centre, for an additional supply of heat; and, if that be kept up, the opposing currents, whose movements could at first be plainly seen, soon become rapid and indistinct. A few small bubbles of vapour are next seen to form at the bottom of the vessel, which, rising rapidly through the water, burst at its surface. Larger bubbles are next formed at the bottom, which being too fragile to resist the pressure of water above them, burst, with a slight explosion, producing the vibratory noise commonly denominated *singing*. As the temperature of the water rises, the bubbles of vapour, all of which form at the bottom, increase in number, but diminish in bulk. At length, the water having attained the greatest degree of heat, of which, under the circumstances, it is susceptible, ebullition ensues, and the water is speedily changed into vapour. In

common language it is described as having *boiled away*.

That warm water is specifically lighter than cold, may be shown, if we take an ale-glass and pour into it a small quantity of cold water. Placing in the glass a thin piece of cork, pour gently upon it, through a funnel, some warm water which has been tinged by a few drops of the infusion of red cabbage, litmus, or saffron. Above this, pour in the same manner, a little more water, much hotter than the last, but which has not been coloured. If the glass remain undisturbed, the three several portions of water will preserve for some time their relative situations, namely, the cold water will remain at the bottom, that which has been coloured, in the middle, and that still hotter, at the top. If we now take some cold water, which has been tinged of a different colour from that just mentioned, and pour it very slowly against the side of the glass, it will pass by the warm water, already in the glass, and mix itself with the cold at the bottom.

By the preceding table, it will be seen that the temperature at which water boils is 212° . We have already mentioned that a variety of circumstances concur to affect the boiling-point of all liquids; but as the phenomena connected with water are better known than any other, we shall allude to that liquid more particularly.

The material of which the containing vessel is constructed will influence the boiling-point of water. In a metallic vessel it will boil at 212° . In a glass vessel, to produce the same result, its temperature must be raised to 214° . The addition of a few particles of some solid substance will alter the boiling-point. Thus, when water is boiling in a glass vessel at 214° , if we cast into it a few iron-filings, ebullition will continue as before, but the temperature of the water will instantly fall to 212° .

When the barometer * stands at 30 inches, at the mean level of the earth, all bodies on the earth's surface, being at the same elevation, are exposed to pressure from the atmosphere equal to 15 lbs. on every square inch. This pressure has a powerful effect in controlling the vaporization of liquid bodies. As the pressure of the atmosphere is liable to frequent variations, we find the boiling points of liquids are similarly affected.

It is only when the mercury in the barometer-tube stands at 30 inches, that water boils at 212° . When the mercury rises in the tube, it is because the pressure of the air is increased, and then the boiling-point is greater than 212° . When the mercury descends, the pressure of the air is diminished, and then the boiling-point is less than 212° . In Great Britain the barometer is scarcely ever lower than $28\frac{1}{2}$ inches, or higher than 31 inches. As the boiling-point of water is affected about $\frac{1}{6}$ th (one-sixth) of a degree of Fahrenheit's Thermometer, for every $\frac{1}{10}$ th (one-tenth) of an inch variation of the barometer, its changes are limited in this country to about $4\frac{1}{2}$ or 5 degrees. When the barometer is at $28\frac{1}{2}$ inches, water will boil at $209\frac{1}{2}$; when it is at 31 inches, the temperature of boiling water will be $213\frac{1}{2}$. As we ascend in the atmosphere, the pressure above us diminishes. Those who live in mountainous regions, employ less heat to make liquids boil than those who inhabit the valleys beneath them. At Madrid the boiling-point of water is about 208° , at Mexico it is 198° , and on the summit of Mont Blanc 187° .

When the weight of the atmosphere is altogether removed from the surfaces of liquids, they boil at a temperature about 140° lower than when they are

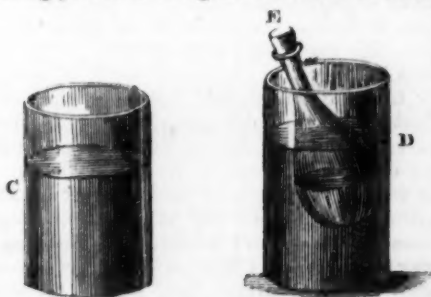
exposed to its influence. With the aid of an air-pump (an instrument whose principle and uses we intend to explain at no very distant period) it can be shown that water may be kept in a state of ebullition when its temperature is equal only to 72° . Alcohol, in like manner, may be made to boil at 33° , and ether at 44° below zero,—that is seventy-five degrees lower than (32) the freezing-point of water.

We have already hinted that boiling and scalding are not synonymous terms. This may be demonstrated in the following manner. Pour some boiling water into a glass vessel, and mix with it cold water until its temperature is reduced to 180° ; leaving a thermometer in the vessel, place it under the receiver of an air-pump. When some of the air has been withdrawn, the water will commence boiling. If the exhaustion of the air be continued, the water will boil until the thermometer sinks to about 72° ,—a temperature that is well known to be very much lower than scalding.

A still more striking illustration of the effect of atmospheric pressure upon liquids may be thus performed:—put a little cold water into a thin glass vessel (a watch-glass will answer the purpose very well) and into a similarly-shaped vessel, if metallic, so much the better, pour about an equal quantity of ether. The vessel containing the ether must be stood within the other, and both be placed under the receiver of an air-pump. On withdrawing the air, the ether will boil briskly,—soon disappearing in the form of vapour. If the experiment is properly conducted, on re-admitting the air, and removing the receiver, the water in the glass vessel will be found to be frozen.

In our next paper we must resume this subject; the space here allotted us being insufficient for entering so fully into it as we desire, and as will, we hope, be acceptable to our readers. Before we conclude, we purpose, however, describing another very interesting experiment, in proof, not only that water will boil at a very low temperature, but, what may appear still more extraordinary, that when it has ceased boiling, it may be made to recommence, by plunging the vessel containing it into cold water.

Having provided two glass vessels, c and d, let c



be about three-fourths filled with boiling water, and d with an equal quantity of cold water.—Take a flask, as denoted by the figure e, to the neck of which must be accurately fitted a cork, covered with wax, or a piece of moistened bladder: if a stop-cock be adapted to the flask, it will be still better. Pour into the flask a sufficient quantity of water to occupy about one-fourth of its space. Leaving the stop-cock open, or the cork out, as the case may be, apply heat, say with a spirit-lamp, to the bottom of the flask, until the water boils. Removing the lamp, close quickly the mouth of the flask, and when the ebullition of the water has ceased, plunge the flask, as low as possible, into the cold water, in the vessel d.

* See Saturday Magazine, Vol. IV, pp. 11, 63.

The water will instantly recommence boiling as briskly as ever. Remove the flask to the hot water in *c*, the boiling will cease; return it again to *b*, it will be resumed; and this alternation may be continued until the temperature of the water in the flask is reduced to about 72°. Covering the hands with worsted gloves will enable the operator to handle the flask without any inconvenience from its heat.

The curious effect thus produced by putting the flask into cold water is dependent on the elasticity of the vapour of boiling water, in conjunction with its speedy condensation.—When the water is first made to boil, the vapour arising from it is sufficiently elastic to force out the air from the flask, and to occupy its place. On surrounding the flask with cold water, the vapour in it is suddenly condensed (that is, it returns to its liquid state) leaving above the surface of the water, a vacant space (*vacuum*) similar to that produced by an air-pump. By placing the flask in hot water, vapour is again formed, which pressing on the surface of the liquid, prevents ebullition. Again it may be condensed—a vacuum is produced—and the water will boil as before.

R. R.

ON THE MISUSE OF TERMS.

ON men of ingenuous but inexperienced minds, there is nothing so imposing as a specious name. In private life, some are brought into great distress, from having acted under an idea that inattention to pecuniary concerns was a mark of generosity. Others fall into vicious practices, because easy compliance with every proposal of a companion appears to them a proof of good temper. Others commit irregularities, through a persuasion that to despise the uniformity of rules is an indication of high spirit. Others violate the decencies of politeness, conceiving disregard to forms a sign of superior ability. Then, again, in public life; many do in reality serve the cause of licentiousness, whilst with the purest intentions they mean only to extend liberty; and many give encouragement to indifference for all religion, whilst they imagine themselves to be promoting only liberality of sentiment.

Now, in the one case, admirable are generosity, good temper, high spirit, and superior ability; but surely, no man in his right senses can say it is admirable, either to bring on himself indigence through imprudent neglect of his property, or to become depraved through weakness, in yielding to solicitations; or to injure society by bad example; or to insult established usages of behaviour by an affected impertinence. So, in the other case, liberty is precious in itself; and liberality in thinking and judging is part of Christian charity, than which nothing is more lovely: but, surely, no man of mature judgment can wish genuine liberty to be converted into a cloak for every species of enormity; nor liberality of sentiment be made the occasion of propagating direct atheism. Yet in these points of view are to be seen many measures which upright but misguided men frequently pursue, merely because they do not fully apprehend the tendencies of their actions.—BISHOP HUNTINGFORD.

EXEMPTION from mistake is not the privilege of mortals: but when our mistakes are involuntary, we owe each other every candid consideration; and the man who, on discovering his errors, acknowledges and corrects them, is scarcely less entitled to our esteem than if he had not erred.—PYE SMITH.

MANUFACTURE OF SAGO.

SINGAPORE is the principal, if not the only place in the East where the manufacturing of the Pearl Sago is carried on, and the process is said to be a recent one, and the invention of the Chinese.

The Sago is imported in large quantities into Singapore from Sumatra in native boats, which bring it at all times of the year. The tree from which the raw material is produced is named Rumbiga by the natives.

The raw Sago is imported in cone-shaped packages, each probably weighing about twenty pounds; the mass is of rather a soft consistence, and dirty-white colour, and the whole enveloped in the leaves of the Pandanus-tree. It first undergoes several different washings in large wooden tubs, being also strained, after washing, through cloth strainers; the masses that remain at the bottom of the vessels are collected, broken into pieces, and placed upon platforms in the sun to dry, being broken into still smaller pieces as the drying proceeds. As soon as the pieces are sufficiently dry, they are pounded, and sifted upon long benches, through sieves made of the mid-rib of the leaves of the cocoa-nut palm, and placed at certain distances in a longitudinal direction, so as to cause the pulverized, or rather broken, masses of Sago, to pass through it only of the required size. Having been passed through the sieve, a certain quantity at each time is taken, placed in a large cloth, tied to cross-sticks in the form of a bag, hanging by a cord from the roof of the building; a Chinese is then employed in shaking the bag backwards and forwards, by the aid of one of the longest crooked sticks to which it is attached, occasionally shaking up the Sago Powder; this is continued constantly for the space of ten minutes, when it is turned out granulated; it is then placed in small wooden hand-tubs, (looking beautifully and delicately white, but still so soft as to break instantly on the slightest pressure,) and carried to several Chinese, whose occupation is to make it undergo the drying process in large iron pans over a fire. They are constantly stirring it about while in the pan with a wooden instrument; it is then resifted at another bench, and rebaked, after which it is considered prepared. It is then of a fine pure white colour, and, being spread thinly over a long and large bin, in the course of time becomes both harder and of a darker colour.

The Pearl, or refined Sago, is exported in large quantities to Europe, our Indian empire, the Cape, &c., in wooden boxes, each containing rather more than a pecul; ten boxes, or fifteen peculs, can be manufactured in two days.

A piggery is attached to the Sago establishments, the inhabitants of which must fare very well on the refuse of the Sago-washings.

SIMPLE WATER-FILTER.

PUT into an earthen vessel, such as those which are used by sugar-bakers to form the loaves in, with a *small* hole at the pointed end, some pieces of Turkey sponge, and on them a sufficient quantity of SMALL, CLEAN pebbles, to a quarter fill the vessel. Suspend this filter, the end downwards, in a barrel with the head out, leaving about two or three inches space between the end of the filter and the bottom of the barrel. The upper part of the filter *must be kept a little above* the top of the barrel, which should be always full of water. It is obvious that the sediment of the water will remain at the bottom of the barrel, and the *pure* water will ASCEND through the sponge and pebbles, to the unoccupied portion of the filter. It might be suspended in a cistern or water-butt, if more convenient. The pebbles and sponge should be cleansed occasionally.

COAL AND COAL MINES.

THE vein or bed of coal is generally seven or eight feet thick; and through this the workmen form a variety of passages, leaving masses at intervals untouched, to support the roof, so that the whole resembles a vast subterranean palace, supported by ebony pillars. Some of them are wide enough to admit carts and wagons; and as you walk above, you hear the busy world below you, the buzz of voices, and the rumbling of wheels ascending as from some neighbouring city. The streets or ramifications of this mine, are said to extend in various directions for nearly twenty miles, both under the sea and under the town of Whitehaven, so as to become dangerous to the latter.

But how can they see to work in the darkness?

This is a circumstance which has greatly embarrassed the miners. The nature of coal is such, that it produces different airs or gases that are highly dangerous to human life; one is called the *choke-damp*, and the other the *fire-damp*. Where a man incautiously breathes the first, he is speedily suffocated. When he brings any light to the second, it immediately explodes like gunpowder; sometimes it dashes the body against the roof or pillars with great violence; sometimes it tears it, as it were, to pieces. The approach of these ministers of death is frequently as insidious as it is destructive. At one time an odour of the most fragrant kind is diffused through the mine, resembling the scent of the sweetest flowers; and while the miner is inhaling the balmy gale, he is suddenly struck down, and expires in the midst of his fancied enjoyment. At another it comes in the form of a globe of air, enclosed in a filmy case; and while he is gazing on the light and beautiful object floating along, and is tempted to take it in his hand, it suddenly explodes, and destroys him.

I have heard there is some coal which itself emits, when burning, a gas that is very unsafe.

There is a kind of coal in Ireland, little known in England, which has this property. It is found in the county of Kilkenny, and called stone-coal, because it resembles blocks of jasper or jet, being very hard, shining, and clean. It has the peculiar advantage, also, of yielding no dense or sulphurous vapour; so that the people of the towns where it is raised and consumed, justly boast that they have "fire without smoke." This good quality, however, is counteracted by one of a different kind: in the act of burning, it emits an invisible gas, which it is highly dangerous to breathe, and which in a close room destroys life, as you have heard the vapour of charcoal does. On entering the town of Kilkenny, in certain states of the atmosphere, on a winter's day, when a great quantity of this coal is burning at the same time, and the atmosphere entirely filled with its vapour, a nervous and very uneasy sensation is felt, and a debility nearly amounting to fainting. I remember, on one occasion, travelling through on a stage-coach on a very severe day; we all hastened to a large fire, which was burning very bright and red in the parlour, and immediately complained that we felt this sensation very strongly; but a lady of the company, who said she was very cold, incautiously remained with her head and hands over the fire; when she was seized with a sudden faintness, and fell as if she were dead: on being brought out to the air she recovered. The people of the inn told us it was not an uncommon accident, and that they seldom lighted a fire at night in a chamber, lest an incautious traveller should be found suffocated in his bed in the morning. If, however, precautions be taken, by opening part of the door or window, and a current of pure air be suffered to carry off the foul vapour, there is no danger.

But why do people ever burn this dangerous substance?

It has many good properties, and is very valuable in a country where fuel is scarce. It is pure and clean, and has not the dirty qualities of some English coal. It is difficult to light; but when once it is ignited, it burns with a very beautiful ruddy glow, which is communicated to the whole mass, and has nothing of that obscure and dingy light which other coal gives out; the house within is never soiled with soot and ashes, and without, the air is clear, and never loaded with those torrents of smoke which you see issuing from the chimneys, and darkening the air of other towns. Above all, the heat it gives out is intense; and so powerful, that it performs all the purposes for which fire is used in houses in less time, and with a smaller quantity, than any other fuel,—inasmuch so, that the good people complain that it consumes even their grates and utensils by its violence.—**DR. WALSH.**

THE BEAR AND THE HONEY-GUIDE*.

A FABLE.

THERE is a bird of wondrous skill,
Half-reas'ning instinct, if you will,
Whose home is in a distant spot,
The country we call Hottentot:
Her taste is nice; for she can tell
Where the sweet honey-makers dwell,
And, greedy pilferer! feasts and thrives
Upon the produce of the hives;
In what a bold and cunning way,
Shall form the opening of my lay.

Strange it may seem, and yet 'tis true,
That Bears are fond of honey too,
But stranger that a Bird should lead
The way, and show them where to feed.
She, watchful thing, the treasure found,
Hov'ring above, below, around,
Invites the Bear with plaintive cries,
To follow her and seize the prize.
Lured by the magic of her song,
The shaggy monster strides along,
Paws out the honey, licks the nest,
And leaves his guide to eat the rest.
E'en such an ill-match'd pair I choose
To point the moral of my Muse.

"Come!" said a HONEY-GUIDE, "and see
The banquet I design for thee:
The nest is large, its sweets untold,
Flowing in streams of liquid gold:
The bees are gone where wild flowers shine,
And wish their luscious product thine:
Then, gentle BRUIX, do not stay,
Come, dear companion, come away!"

When she deceived and fooled him so,
What wonder that the Bear should go?
They went; he keeping her in sight,
She with a cautious, clamorous flight,
Till in broad sunshine they arrive
Like felons at the quiet hive.

Young BRUIX, in his headlong haste,
Impatient to attack and taste,
Fells the slight fabric at a blow;—
But while he sipp'd the sweets that flow;—
From cells within, an armed throng
Pour'd in a countless crowd along,
And fixing on the culprit, stung
His broad, dark nose, his eyes, his tongue.
Sharp anguish mounting to his brain,
He roar'd, and even danced for pain,
Then prowld in blindness o'er the plain!

And thou, unkind one on the spray,
False bird, hast nothing now to say?
Bringing another into woe,
What? not one word of comfort? No!
Eying her victim with a sneer,
And waiting till the course was clear,
She pounced upon the felix there,
And filled her crop with ill-got fare.

Poor BRUIX lives;—but should he hear
A HONEY-GUIDE's shrill music near,
By memory wounded, it is said,
He licks his paws, and hangs his head.

How often lurks a treach'rous sting
Under a specious covering.
False Gain, false Pleasure, weave a charm
For their base triumph, and thy harm.
Be Truth and Virtue, then, thy choice,
And list not to the Siren's voice,
Who, in the guise of seeming joy,
Would lure thee, chain thee, and destroy! M.

* For an account of the habits of this remarkable bird, see Sparman's Travels in the Hottentot country; and Vol. V., page 112, of the Saturday Magazine.

LOOK about you, and see if three great idols, Honour, Pleasure, Gain, have not shared the earth amongst them, and left him least, whose all it is.—**BISHOP HALL.**

GRATITUDE is a species of justice. He that requires a benefit may be said, in some sense, to pay a debt; and, of course, he that forgets favours received may be accused of neglecting to pay what he cannot be denied to owe.—**DR. JOHNSON.**

ON CROMLECHS.

THE accompanying engraving exhibits a view of an insulated rock, popularly termed a *Cromlech*, standing on a moor in the parish of Constantine, in Cornwall, and called by the people of the country "The Tolmen." The surrounding scene is wild in the extreme, the whole moor being thickly covered with enormous blocks of granite, forming altogether a subject worthy of the pencil of a *Salvator Rosa*.

The origin of these rude monuments of ancient times is buried in the darkest obscurity, and must consequently be left entirely to conjecture, though all antiquaries appear to agree in attributing them to the Druids, but are much divided in their opinions as to the purposes for which they were erected, some supposing them to have been sacrificial altars, others, again, considering them as monuments erected over the ashes of illustrious persons. The circumstance of *Kistvaens*, or stone chests, having been discovered under some of them, favours this latter opinion. Mr. Rowland, in his *Mona Antiqua*, is inclined to consider them as intended for purposes of sacrifice, and supposes the word *Cromlech* to be derived from the Hebrew compound *cramluach*, a devoted stone, or altar; that he should have had recourse to the Hebrew for a derivation is extraordinary, the British word itself being so significant; for *Krw*, in that language, is crooked or inclining, and *Llech* is a stone, and the superincumbent stone, or roof of these monuments, is always in a slanting position, in a greater or lesser degree; that of the *Tolmen* inclines very little. It is not improbable but that they might have been used for both the above-mentioned purposes, and also as the presidial chair, or seat of the chief Druid at their grand national assemblies.

We learn from Cæsar that the Druids were the

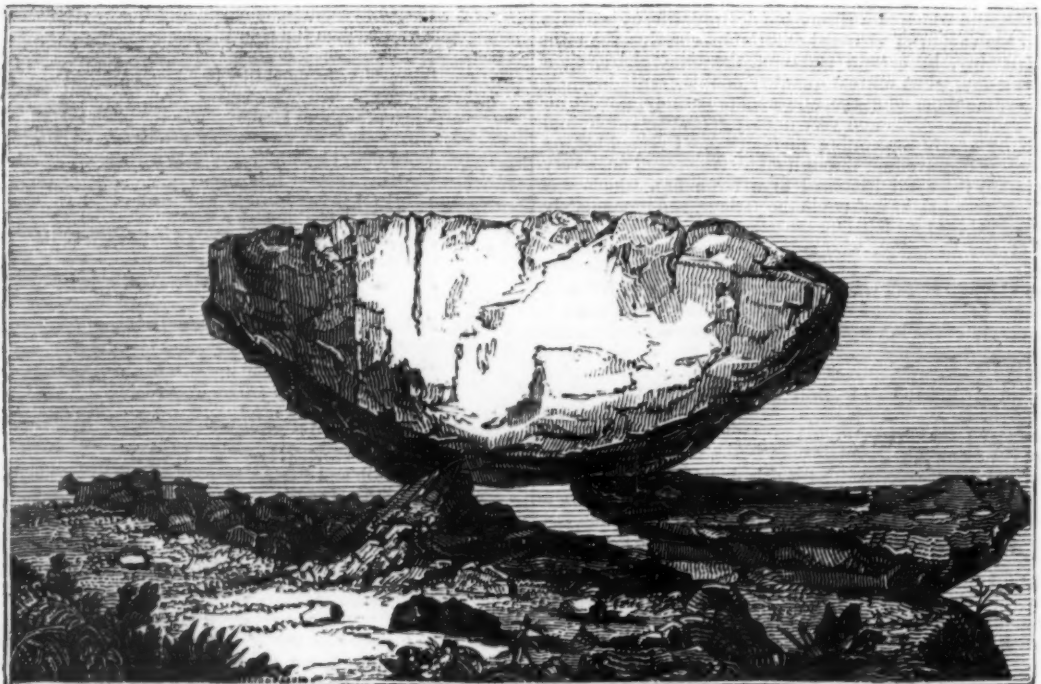
judges, and arbiters of all differences both public and private, and that they held an assembly every year, at a certain place, in the middle of the country, and consecrated for the purpose, where they took cognizance of murders, inheritances and boundaries, and decreed rewards and punishments.

It is probable that this annual meeting took place at Stonehenge, and that inferior tribunals were held periodically in remote districts, where these stones are found, and as has been before observed, they probably served as the presidial chair; and as sacrifices were offered up at their religious assemblies, the victim was also slain upon them. There is a hollow of the diameter of about a foot and a half scooped out on the summit of the *Tolmen*, which might have been intended as a receptacle for the blood as it flowed from the victim.

It is curious that the word "*Tolmen*" may be traced to the British words *Toll*, (the double *ll* being pronounced as *lh*,) tribute, and *Maen*, a stone, from whence a question would arise worthy the consideration of antiquaries; Did the Druids receive tribute from the people? And if so, was it received as dues belonging to them as a priesthood, or ministers of religion?

What most fully establishes the hypothesis that these monuments are the works of the Druids, is the fact, that they are found only in those countries where Druidism prevailed, namely, in Gaul, Germany, and Britain, its chief seat in the latter country being the Isle of Anglesey, the ancient *Mona*.

The "*Tolmen*" points due north and south, is 33 feet in length, 18 feet in width in the widest part, and 14 feet 6 inches in depth, 97 feet in circumference, and is calculated by admeasurement, to contain 750 tons of stone.



THE TOLMEN, IN CORNWALL.